



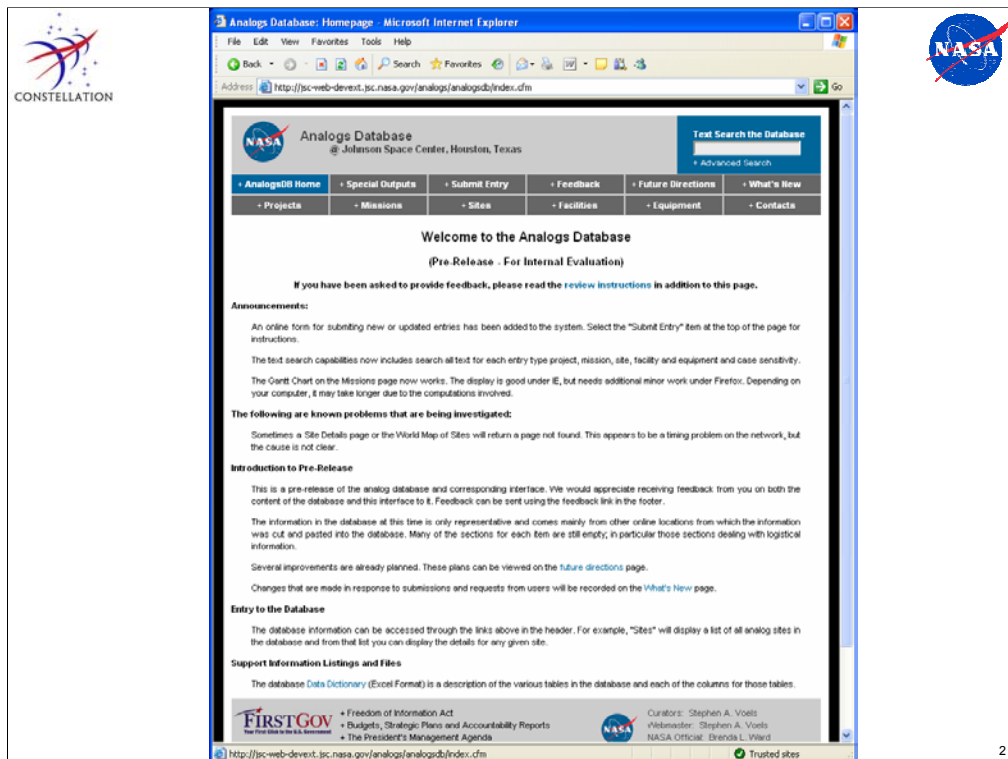
Analogs Database Slides for Static Demo

Stephen A. Voels (SAIC)

CxPO/Advanced Projects Office

CONSTELLATION

06/01/06



- This is the Homepage of the Analog Database
- The current version of this page is tailored towards the group of people we have asked to review the website before it put on the open webserver.
- Elements common to (most) pages.
 1. Header
 1. Link to NASA Homepage through the NASA Logo.
 2. Link to JSC Homepage through the “Johnson Space Center” text
 3. Search box in the upper right corner to perform simple keyword searches of the entries. There is also a link to a more advanced search capability.
 4. First row of options (dark gray boxes) include options to see planned future developments and submit data for inclusion in the database.
 5. Second row of options allow one to select the category in which to look for a particular entry.
 2. Footer
 1. Links to policy statement and other NASA or Government statements

Analogs Database: Mission Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go

Address http://jsc-web-devel.jsc.nasa.gov/analogs/analogsdb/DetailsOfMission.cfm

Analogs Database
@ Johnson Space Center, Houston, Texas

Test Search the Database
Advanced Search

AnalogsDB Home Special Outputs Submit Entry Feedback Future Directions What's New
Projects Missions Sites Facilities Equipment Contacts

Mission Entry Selection Page

Mission entries are usually field trips to an analog site or facility to carry out a simulation or test equipment in an appropriate environment. They may also be a science component to the field mission to gather baseline or comparative data. The database contains a description, contact information, results and lessons learned for each mission.

Use the menu below to select and display detailed information on a specific mission.

NASA Houghton-Mars Project 2000
NASA Oceanographic Analog Mission Activity (NOAMA)
NEEMO 1
NEEMO 2
NEEMO 3
NEEMO 4
NEEMO 5
NEEMO 6
NEEMO 7
NEEMO 8
NEEMO 9
Procedural Surface Navigation Experiment 2000

Submit Reset

List all missions (alphabetically).
List of all missions displayed on a Gantt Chart in time order.

FIRST GOV
First Freedom of Information Act

Freedom of Information Act
Budgets, Strategic Plans and Accountability Reports
The President's Management Agenda
NASA Privacy Statement, Disclaimer, and Accessibility Certification
Inspector General Hotline
Equal Employment Opportunity Data Posted Pursuant to the No Fear Act
Information Dissemination Priorities and Inventories

NASA
Curators: Stephen A. Voets
Webmaster: Stephen A. Voets
NASA Official: Brenda L. Ward
Reviewed: TBD
Reviewed: TBD

Trusted sites

- The main page for the mission category.
- The other major categories have a similar main page layout.
- The page contains:
 1. a short description
 2. a selection box for all of the available entries
 3. a list of other views of the entries.

Analogs Database: Mission Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go

Address http://jsc-web-dev-cent.jsc.nasa.gov/analogs/analogsdb/DetailsOfMission.cfm

Analogs Database
@ Johnson Space Center, Houston, Texas

Test Search the Database
+ Advanced Search

+ AnalogsDB Home	+ Special Outputs	+ Submit Entry	+ Feedback	+ Future Directions	+ What's New
+ Projects	+ Missions	+ Sites	+ Facilities	+ Equipment	+ Contacts

Mission Details


Name
Planetary Surface Navigation Experiment 2003

Dates
July 9, 2003 to July 14, 2003

Organizational lead or sponsor
[NASA JSC](#)

Lead Person
[Stephen J. Hoffman](#)

Contact Person
[Stephen J. Hoffman](#)



Description
A stated objective of future human missions to Mars is the capability to traverse 10s or 100s of kilometers across the surface. This will be a significant challenge for not only the hardware systems but also for operations, including navigation across uncertain terrain. Personnel from the NASA Johnson Space Center's Exploration Office set up an experiment to test a premise that imagery and topography data of a quality no better than what is currently available for Mars would be sufficient to navigate across terrain for these distances. Lessons learned could then be extrapolated to similar circumstances on Mars. An opportunity to test this premise arose during the summer of 2003 when the Haughton Mars Project was faced with the task of moving an experimental Humvee rover across almost 100 kilometers of Devon Island, from a point on the coast to their base camp at the Haughton Crater. A team made up of JSC and JSC personnel succeeded in using just these data to navigate for a total of approximately 230 kilometers across Devon Island to reach the Haughton Crater base camp. The combination of imagery and topographic maps with reasonable resolution proved to be quite adequate to plan a basic route and to region that route in the field when conditions required. A scout vehicle moving in advance of the larger vehicle proved to be extremely important in completing this traverse as originally suspected by the team.

Objectives
Test the ability to move 230 km across Mars representative terrain using only the equivalent topographical and satellite photo information that would be available during a Martian surface deployment.

Results
Acknowledging that this is but a single instance of this type of simulation (i.e., more cases should be carried out to determine the actual utility of the concept), the following lessons were learned:

- 1) Topographic maps and air photos of this scale and resolution are sufficient to accomplish long range traverse of this type

Trusted sites

- This and the next two pages are a display of a single mission entry.
- For each mission entry there are several items information displayed.
- Each of the blue text items are links to other entries in the database.
 - For example if one clicks the “Devon Island (General)” text in the related sites item, the site page for “Devon Island (General)” is displayed.
- At the bottom of the page are the same selection options for mission entries as on the main mission page.

Analogs Database: Mission Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Print

Address http://jsc-webb-devcent.jsc.nasa.gov/analogs/analogsdb/DetailsOfMission.cfm

Results

Acknowledging that this is but a single instance of this type of simulation (i.e., more cases should be carried out to determine the actual utility of the concept), the following lessons were learned:

- 1) Topographic maps and air photos of this scale and resolution are sufficient to accomplish long range traverse of this type.
- 2) The ability to remain high where landmarks are visible plus the need for an odometer are vital to navigating by this method.
- 3) The surrogate scout vehicle was also vital to identifying the local route to follow.
- 4) An added benefit of the surrogate scout was its use as a ground pressure testing device. By watching the effect of the scout vehicle on the terrain, the Humvee crew could determine if a particular route would support the weight of the Humvee. This important piece of information is probably not determinable by remote sensing means.
- 5) A dedicated driver and a dedicated navigator are necessary for this type of surface traverse. This is one area where a GPS-like position locating system and an appropriate display would allow a single person to function as both driver and navigator, freeing up crew for other duties.
- 6) The crew was lost once, due to its location in a shallow valley and the ambiguous nature of the landmarks in the area. However the crew was able to identify this error, locate its position and return to the original path again using only the data sets available (i.e., not resorting to the OPS).

Lessons Learned

Related Projects

[NASA Haughton-Mars Project \(HMP\)](#)

Related Missions

[NASA Haughton-Mars Project 2003](#)

Related Sites

[Devon Island \(General\)](#)

Related Facilities

[NASA Haughton-Mars Project Base Camp](#)

Related Equipment

References

Use the menu below to select and display detailed information on a specific mission.

- Advanced Space Suit Field Test 1998
- Advanced Space Suit Field Test 1999
- Advanced Space Suit Field Test 2000
- Astronaut/Rover (ASRO) Interaction Field Test 1999
- Desert RATS 2002
- Desert RATS 2003
- Project Mars 2004

Trusted sites

- See previous notes page.



Analogs Database: Mission Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites

Address http://jsc-webb-dev.ent.jsc.nasa.gov/analogs/analogsbyDetailsOfMission.cfm

Lessons Learned

Related Projects
[NASA Haughton-Mars Project \(HMP\)](#)

Related Missions
[NASA Haughton-Mars Project 2003](#)

Related Sites
[Devon Island \(General\)](#)

Related Facilities
[NASA Haughton-Mars Project Base Camp](#)

Related Equipment

References

Use the menu below to select and display detailed information on a specific mission.

Advanced Space Sui Field Test 1998
Advanced Space Sui Field Test 1999
Advanced Space Sui Field Test 2000
Astronaut-Power (ASPO) Interaction Field Test 1999
Desert RATS 2002
Desert RATS 2003
Desert RATS 2004
Desert RATS 2005
Desert RATS 2006
Human Operated Robotic Science Evaluation Project (HORSE)
Marsfield River Field Test 1999
MARTE 2004

Submit Reset

List all missions (alphabetically).
List of all missions displayed on a Chart Chart in time order.

FIRSTGov
First Open Data to the U.S. Government

- Freedom of Information Act
- Budgets, Strategic Plans and Accountability Reports
- The President's Management Agenda
- NASA Privacy Statement, Disclaimer, and Accessibility Certification
- Inspector General Hotline
- Equal Employment Opportunity Data Posted Pursuant to the No Fear Act
- Information-Disclosure Priorities and Inventories

NASA

Curators: Stephen A. Voets
Videomaker: Stephen A. Voets
NASA Critic: Brenda L. Ward
Baseline: TBD
Reviewed: TBD

Trusted sites



- See previous notes page.

Analogs Database: Site Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://jsc-web-devext.jsc.nasa.gov/analogs/analogsdb/detailsOfSite.cfm?ID=Devon%20Island%20%28General%29>

Analogs Database
@ Johnson Space Center, Houston, Texas

Test Search the Database
+ Advanced Search

+ AnalogsDB Home + Special Outputs + Submit Entry + Feedback + Future Directions + What's New
+ Projects + Missions + Sites + Facilities + Equipment + Contacts

Site Details

Name
Devon Island (General)

Longitude, Latitude (datum)
-89.683°, 75.366° (NAD83)

Altitude

Location Description
North America, Canada, Territory of Nunavut, Devon Island

Organization that sponsors or owns the site
Canada (CofD of)

Lead Person

Contact Person


Description
Devon Island is located in the Territory of Nunavut in Canada. The expedition base camp is located just outside the northwest area of the Houghton impact crater, which is located at 75°22'N latitude and 89°41'W longitude.

Devon Island is the largest uninhabited island on Earth, with a surface area of approximately 66,000 km². Its geology presents two major provinces: a thick (presently ~ 1.3 km) subhorizontal sequence of Paleozoic (Cambrian to Devonian) marine sedimentary rocks dominated by carbonates (dolomite and limestone) forming part of the Arctic Platform; and a Precambrian crystalline (gneissic) basement lying unconformably under the stack of marine sediments, forming part of the Canadian Shield. The Paleozoic sediments present a gentle dip of approximately 4° towards the west. The flat topped plateau characterizing much of Devon Island's surface is an old erosional surface (peneplain) exposing sediments of increasing age towards the east.

The coastal areas of the island present steep sea cliffs and deep glacial trough valleys and fjords, many of which were likely last occupied by ice during the Last Glacial Maximum which ended approximately 10,000 to 5,000 years ago. A subglacial ice cap representing a remnant of the Laurentide/Inuitian ice sheet system still occupies the easternmost third of the island. The rest of Devon Island presents a barren rocky surface incised by sinuous glacial trough valleys, dendritic meltwater channel networks, and clusters of small lakes.

Staging Information
Most participants stage out of Resolute Bay on Cornwallis Island, Canada on a Twin Otter aircraft.

- This and the next two pages are a display of a single site entry.
- The format is similar to that of the mission entry page.
- The site entry pages have two active Google maps at different zoom levels attached to help locate the site. The left image is in map mode and is zoomed closer in than the right image which is a satellite view. Either image may be independently zoomed or move using standard Google Map controls supplied in the upper left corner of each image.



CONSTELLATION

Analogs Database: Site Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites

Address <http://jsc-web-devcent.jsc.nasa.gov/analogs/analogsby/detailsOfSite.cfm?ID=Devon%20Island%201%28General%29> Go

by ice during the Last Glacial Maximum which ended approximately 10,000 to 8,000 years ago. A substantial ice cap representing a remnant of the Laurentide-Humboldt ice sheet system still occupies the easternmost third of the island. The rest of Devon Island presents a barren rocky surface incised by sinuous glacial trough valleys, dendritic meltwater channel networks, and clusters of small lakes.

Staging Information
Most participants stage out of Resolute Bay on Cornwallis Island, Canada on a Twin Otter aircraft.
Logistics are supported by the Mars Institute.

Special Access Information

Shipping Information

Supply Information

Communications Information

Medical Information

Lodging Information

Transportation Information
There is no scheduled commercial service to Devon Island.
The nearest commercial airport (YRB) is Resolute Bay, Territory of Nunavut, Canada.


Additional Special Information

Related Projects


Related Missions
Human Operated Robotic Science Evaluation Project (HORSE)
NASA Haughton-Mars Project 1997
NASA Haughton-Mars Project 1998
NASA Haughton-Mars Project 1999
NASA Haughton-Mars Project 2000
NASA Haughton-Mars Project 2001
NASA Haughton-Mars Project 2002
NASA Haughton-Mars Project 2003
NASA Haughton-Mars Project 2004
NASA Haughton-Mars Project 2005
Planetary Surface Navigation Experiment 2003

Related Sites


Related Facilities
NASA Haughton-Mars Project Base Camp



- See previous notes page.



CONSTELLATION



Analogs Database: Site Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://jsc-web-devcent.jsc.nasa.gov/analogs/analogsdb/detailsOfSite.cfm?ID=Devon%20Island%2019%28General%29>

NASA Haughton-Mars Project 1997
 NASA Haughton-Mars Project 1998
 NASA Haughton-Mars Project 1999
 NASA Haughton-Mars Project 2000
 NASA Haughton-Mars Project 2001
 NASA Haughton-Mars Project 2002
 NASA Haughton-Mars Project 2003
 NASA Haughton-Mars Project 2004
 NASA Haughton-Mars Project 2005
 Planetary Surface Navigation Experiment 2003

Related Sites

Related Facilities
 NASA Haughton-Mars Project Base Camp

Related Equipment


References

Use the menu below to select and display detailed information on a specific site.

Aquarius
 Bar-T-Bar Ranch
 Cinder Lake
 Devon Island (General)
 Grand Lake
 Joseph City
 Little Painted Desert Overview
 Meteor Crater
 Moenkopi Plateau
 Petrified Forest SP
 Silver Lake
 SP Mountain


Submit Reset

List of all sites (alphabetical or longitude ordered).
[World map of all sites.](#)



FIRSTGov
Real Time Data to the U.S. Government

- Freedom of Information Act
- Budgets, Strategic Plans and Accountability Reports
- The President's Management Agenda
- NASA Privacy Statement, Disclaimer, and Accessibility Certification
- Inspector General Hotline
- Equal Employment Opportunity Data Posted Pursuant to the No Fear Act
- Information-Dissemination Priorities and Inventories



Curators: Stephen A. Voets
 Videomaker: Stephen A. Voets
 NASA Official: Brenda L. Ward
 Baseline: TBD
 Reviewed: TBD

- See previous notes page.

Analogs Database: Site Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://jsc-webb-devext.jsc.nasa.gov/analogs/analogsdb/DetailsOfSite.cfm

Analogs Database
@ Johnson Space Center, Houston, Texas

Test Search the Database
Advanced Search

AnalogsDB Home Special Outputs Submit Entry Feedback Future Directions What's New
Projects Missions Sites Facilities Equipment Contacts

Site Entry Selection Page

Sites are locations, usually outside and usually natural, that are of interest for analogs field work. The database contains the location, description, contact information, and logistical information for each site.

Use the menu below to select and display detailed information on a specific site.

Click the image below to go to a full-size interactive map of all sites.

Aquarius
Bow-Tie Ranch
Cinder Lake
Devon Island (General)
Grand Lake
Joseph City
Little Painted Desert Overview
Meteor Crater
Moonings Plateau
Petrified Forest SP
Silver Lake
SP Mountain

Submit Reset

List of all sites (alphabetical or longitude ordered).
World map of all sites.

FIRST GOV
New Frontiers in the U.S. Government

- Freedom of Information Act
- Budgets, Strategic Plans and Accountability Reports
- The President's Management Agenda
- NASA Privacy Statement, Disclaimer, and Accessibility Certification
- Inspector General Hotline
- Equal Employment Opportunity Data Posted Pursuant to the No Fear Act
- Information Dissemination Priorities and Inventories

NASA
Curators: Stephen A. Voigt
Vetted by: Stephen A. Voigt
NASA Official: Brenda L. Ward
Reviewed: TED
Reviewed: TED

Trusted sites

- The main Site page allowing selection of specific site entries.
- In addition to the selection box, there is a static image of a Google map with (most) of the sites indicated. By clicking on the map, a new interactive page will be displayed showing all sites in the database.
- Below the selection box is a list of alternate views of the list of sites.

Analogs Database: World Map of Sites - Microsoft Internet Explorer


File Edit View Favorites Tools Help

Address <http://ssc-web-devent.ssc.nasa.gov/analogs/analogsdb/WorldMapOfSites.cfm>

AnalogsDB Home Special Outputs Submit Entry Feedback Future Directions What's New
 Projects Missions Sites Facilities Equipment Contacts

World Map of Sites

(instructions after the map)



The above map uses the Google Maps user interface. The map can be changed between the hybrid (default), satellite image and map modes using the controls in the upper left corner of the map. The zoom level can be changed using the controls in the upper right corner of the map. You can click and drag the map or use the controls to reposition. As you pass over each site, a tooltip will display to indicate the site name. If you click on the site, an information balloon will be displayed with information on the site. The balloon can be closed by clicking on another site or the "X". Clicking on the site name in the balloon will take you to the details pages of that site.

If the map does not function for you, the complete list of sites is available ordered [alphabetically](#) or by [longitude](#).

Freedom of Information Act

Curators: Stephen A. Voets

<http://ssc-web-devent.ssc.nasa.gov/analogs/analogsdb/ListOfSpecialOutputs.cfm>

Trusted sites

- Interactive World Map showing all analogs sites in the database.
- You can zoom and move using the normal Google Map controls.
- If the cursor is placed on a marker, the name of the site appears.
- If a marker is clicked, a comment balloon appears with a link to the site entry (in blue) and the coordinates of the site.

Analogs Database: World Map of Sites - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://joc-web-devent.jsc.nasa.gov/analogs/WorldMapOfSites.cfm>

AnalogsDB Home Special Outputs Submit Entry Feedback Future Directions What's New
Projects Missions Sites Facilities Equipment Contacts

World Map of Sites

(instructions after the map)

Map Satellite Hybrid

The above map uses the Google Maps user interface. The map can be change between the hybrid (default), satellite image and map modes using the controls in the upper left corner of the map. The zoom level can be changed using the controls in the upper right corner of the map. You can click and drag the map or use the controls to reposition. As you pass over each site, a tooltip will display to indicate the site name. If you click on the site, an information balloon will be displayed with information on the site. The balloon can be closed by clicking on another site or the "X". Clicking on the site name in the balloon will take you to the details pages of that site.

If the map does not function for you, the complete list of sites is available ordered [alphabetically](#) or by [longitude](#).

Freedom of Information Act

Curators: Stephen A. Voels

Trusted sites

- A zoom in of the world map in the area of Meteor Crater, showing several sites.
- The cursor was placed on the Meteor Crater marker, so the name has appeared.

Analogs Database: World Map of Sites - Microsoft Internet Explorer

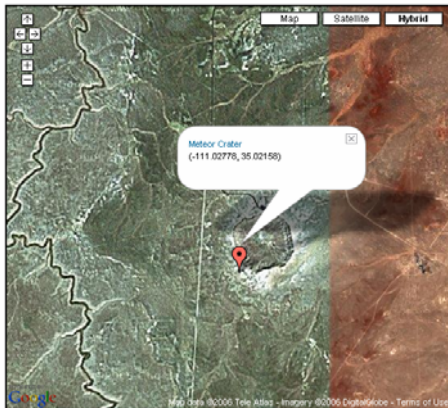
File Edit View Favorites Tools Help

Address <http://jsc-web-devent.jsc.nasa.gov/analogs/analogsdb/WorldMapOfSites.cfm>

AnalogsDB Home | Special Outputs | Submit Entry | Feedback | Future Directions | What's New
 Projects | Missions | Sites | Facilities | Equipment | Contacts

World Map of Sites

(instructions after the map)



The above map uses the Google Maps user interface. The map can be changed between the hybrid (default), satellite image and map modes using the controls in the upper left corner of the map. The zoom level can be changed using the controls in the upper right corner of the map. You can click and drag the map or use the controls to reposition. As you pass over each site, a tooltip will display to indicate the site name. If you click on the site, an information balloon will be displayed with information on the site. The balloon can be closed by clicking on another site or the "X". Clicking on the site name in the balloon will take you to the details pages of that site.

If the map does not function for you, the complete list of sites is available ordered [alphabetically](#) or by [longitude](#).

Freedom of Information Act

Curators: Stephen A. Voels

Done Trusted sites

- A further zoom in of Meteor Crater.
- The marker has been clicked causing a balloon with the name, which is a link to the database entry and the coordinates.



Analogs Database: Instructions and Policies for Submitting Entries - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go

Address http://jsc-web-devent.jsc.nasa.gov/analogs/analogsdb/SubmitEntryInstructions.dfm

Submission Policy and Criteria for Inclusion of Entries

Introduction

The primary purpose of this web site is to support NASA VSE activities related to the use of Earth-based analogs. This includes gathering and making easily accessible those data regarding past and present Earth-based analog missions, sites, and facilities that could be used to support future VSE research, analysis, development, deployment and operations planning activities.

Thus, we have implemented a submission procedure and review policy for updates to existing data and for new information submitted to the analogs database.

Submission and Review Process

Submissions will be made through an online form within the Analogs Database Website. A form containing submitted data will be forwarded by email to a NASA-selected review group. This group will review the submission and decide if it should be included, returned for additional information, or not included. In each case, the submitter will be notified of the results of the review. While the review and inclusion process will give significant weight to the submission of experts for a given category, the NASA-selected review group reserves the right to perform additional editing, modifications, or updates as they feel necessary to fulfill the intent of the Analogs Program. As such the copyright status of the submitted data will be one of the criteria considered when determining whether the data will be accepted.

Review Criteria

Because the primary purpose for this website and database are to support the advancement of the VSE, the Analogs Program will review all submitted data for relevance to this purpose before making it available through the website. All submitted data should include rationale describing the submitter's view of its relevance to the VSE. These data need not have been generated by a NASA funded activity. Because this website has been set up for an open exchange of data, preference will be given to those data that are not copyrighted. In addition to these general criteria, other considerations for specific categories (Programs and Projects, Missions, Sites, Facilities, and Equipment) in this data base include the following:

- **Programs and Projects:** Additional criteria for including a Program or Project includes: a sustained support for analog or field testing activities, a requirement to document and archive Program or Project goals and objectives along with the associated results for supported analog or field test activities, and relevance of supported activities to the VSE and this Analogs Program.
- **Missions:** Additional criteria for including a mission is the relevance of documented results or lessons learned to other NASA analog activities or to flight program development and operations.
- **Sites:** Additional criteria for including an analog site would be the use of this site by a documented mission, the documentation of the characteristics useful to future NASA analog missions, and the availability of the site to NASA analog missions.
- **Facilities:** Additional criteria for including a facility would be the usefulness of its capabilities to support VSE activities and the availability of the facility to NASA analog missions.
- **Equipment:** Additional criteria for including a piece of equipment would be the availability of the equipment for use by NASA analog missions as well as documentation of the equipment capabilities and uses, particularly those relevant to the NASA VSE.

Submission Instructions

The links below will take you to the form-based submission pages. The first time that the page is called, you will be able to select from the basic categories of information that you would like to submit: Programs and Projects, Missions, Sites, Facilities, Equipment, or Contact. Each time after that, you will have the choice of selecting a new category or of filling in the previously selected category with an entry and submitting it. The data are not immediately entered into the database – the data will be forwarded to a NASA-selected review group for evaluation and any further editing.

When you submit information, you should make sure that you also submit information for other entries to which it will be linked. For example, if you specify "John Doe" as the contact person, you should either make sure that "John Doe" is already in the contacts list or you should also submit the contact data for "John Doe".

[Form to Submit New or Updated Entry](#)

Trusted sites



- First page of the process to submit new or updated information for the database.
- This page contains the instructions and an explanation of the process.



Analogs Database: Submit New or Updated Entry - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go

Address http://jsc-web-dev-ext.jsc.nasa.gov/analogs/analogsdb/SubmitEntry.cfm

Analogs Database
@ Johnson Space Center, Houston, Texas

Test Search the Database
+ Advanced Search

+ AnalogsDB Home	+ Special Outputs	+ Submit Entry	+ Feedback	+ Future Directions	+ What's New
+ Projects	+ Missions	+ Sites	+ Facilities	+ Equipment	+ Contacts

Submit New or Updated Entry

Select the item type.

Select the entry.

Enter and submit information for the Project entry.

Submitter Name

Submitter Email

Unique project ID. Standard or common name given to the project. (Primary Key).

Filename or URL to a representative image.

Organization that is sponsoring or owns the activity or item. Foreign key constrained to the contacts table.

Name of the lead person. Foreign key constrained to the contacts table.

Name of the person to contact for information. Foreign key constrained to the contacts table.

General description of the entry, focused on the purpose and relevance to exploration.

Done Trusted sites



15

- First page of the form.
- When the form first displays, it assumes that a new project entry will be created.
 - The first selection box allows the selection of a different type of entry (project, mission, site, facility, or equipment).
 - The second selection box allows the selection of “new entry” or a particular entry that already exists in the database

Analogs Database: Submit New or Updated Entry - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go

Address http://jsc-web-devent.jsc.nasa.gov/analogs/analogsdb/SubmitEntry.cfm

Analogs Database
@ Johnson Space Center, Houston, Texas

Test Search the Database
+ Advanced Search

+ AnalogsDB Home	+ Special Outputs	+ Submit Entry	+ Feedback	+ Future Directions	+ What's New
+ Projects	+ Missions	+ Sites	+ Facilities	+ Equipment	+ Contacts

Submit New or Updated Entry

Select the item type.
Submit Mission

Select the entry.
Submit Planetary Surface Navigation Experiment 2003

Enter and submit information for the Mission entry.

Submitter Name

Submitter Email

Unique mission ID. Standard or common name for the mission. (Primary Key)
Planetary Surface Navigation Experiment 2003

Filename or URL to a representative image.
DevonIslandRover.jpg

Beginning of mission date.
2003-07-09 00:00:00.0

End of mission date.
2003-07-14 00:00:00.0

Organization that is sponsoring or owns the activity or item. Foreign key constrained to the contacts table.
NASA JSC

Name of the lead person. Foreign key constrained to the contacts table.
Stephen J. Hoffman

Name of the person to contact for information. Foreign key constrained to the contacts table.
Stephen J. Hoffman

Trusted sites

- In this case, we have selected to modify a particular mission; the Planetary Navigation Experiment 2003.
- The system has pre-filled in the existing data, which can now be edited and then the changes submitted.

Analogs Database: Submit New or Updated Entry - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Print

Address <http://jsc-web-dev-ext.jsc.nasa.gov/analogs/analogsdb/SubmitEntry.cfm> Go

Name of the person to contact for information. Foreign key constrained to the contacts table
Stephen J. Hoffman

General description of the entry, focused on the purpose and relevance to exploration.

A stated objective of future human missions to Mars is the capability to traverse 10s or 100s of kilometers across the surface. This will be a significant challenge for not only the hardware systems but also for operations, including navigation across uncertain terrain. Personnel from the NASA Johnson Space Center's Exploration Office set up an experiment to test a premise that imagery and topography data of a quality no better than what is currently available for Mars would be sufficient to navigate across terrain for these distances. Lessons learned could then be extrapolated to similar circumstances on Mars. An opportunity to test this premise arose during the summer of 2003 when the Haughton Mars Project was faced with the task of moving an experimental Mars rover across almost 100 kilometers of Devon Island, from a point on the coast to their base camp at the Haughton Crater. A team made up of JSEP and JSC personnel succeeded in

List (one per paragraph) of the exploration objectives for the entry.

Test the ability to move 230 km across Mars representative terrain using only the equivalent topographical and satellite photo information that would be available during a Martian surface deployment.

List (one per paragraph) of the results related to the objectives.

Acknowledging that this is but a single instance of this type of simulation (i.e., more cases should be carried out to determine the actual utility of the concept), the following lessons were learned:

- 1) Topographic maps and air photos of this scale and resolution are sufficient to accomplish long range traverse of this type.
- 2) The ability to remain high where landmarks are visible plus the need for an odometer are vital to navigating by this method.

List (one per paragraph) of any lessons learned, results in addition to those related to the objectives.

Related Projects

1: NASA Haughton-Mars Project (JSEP)

Done Trusted sites

- Second part of the previous page.

Analogs Database: Submit New or Updated Entry - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Print

Address http://jsc-web-devent.jsc.nasa.gov/analogs/analogsdb/SubmitEntry.cfm

Related Projects

1: NASA Haughton-Mars Project (HMP)

Related Missions

1: NASA Haughton-Mars Project 2003

Related Sites

1: Devon Island (General)

Related Facilities

1: NASA Haughton-Mars Project Base Camp

Related Equipment

Submit Information

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NASA

Curators: Stephen A. Voets
Videomaker: Stephen A. Voets
NASA Official: Brenda L. Ward
Baseline: TBD
Reviewed: TBD

Done Trusted sites

- Third part of the submission page.



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Analogs Database: Results of Collection Search - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go

Address http://jsc-web-devent.jsc.nasa.gov/analogsdb/collection_db_results.cfm

Analogs Database
@ Johnson Space Center, Houston, Texas

Text Search the Database
+ Advanced Search

+ AnalogsDB Home	+ Special Outputs	+ Submit Entry	+ Feedback	+ Future Directions	+ What's New
+ Projects	+ Missions	+ Sites	+ Facilities	+ Equipment	+ Contacts

Results for Text Search of Entries

Your search returned 8 item(s). The name (with link) and type of each entry is given below.

[Meteor Crater \[Site\]](#)

[Cinder Lake \[Site\]](#)

[Human Operated Robotic Science Evaluation Project \(HORSE\) \[Mission\]](#)


[Advanced Space Suit Field Test 1990 \[Mission\]](#)

[Bar-T-Bar Ranch \[Site\]](#)


[Planetary Surface Navigation Experiment 2003 \[Mission\]](#)

[Devon Island \(General\) \[Site\]](#)

[Drilling Autonomy for Mars Exploration \(DAME\) \[Project\]](#)



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Custodians: Stephen A. Voels
Webmaster: Stephen A. Voels
NASA Official: Brenda L. Ward
Based on: TBD
Reviewed: TBD

Trusted sites

- The “Advanced Search” form results for searching for the word “crater”.
- Each result gives the category to which the entry belongs and the entry name. The entry name (in blue) is a link.



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Analogs Database: Contact Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://jsc-webb-devent.jsc.nasa.gov/analogs/analogsdb/DetailsOfContact.cfm

Analogs Database
@ Johnson Space Center, Houston, Texas

Test Search the Database
Advanced Search

AnalogsDB Home Special Outputs Submit Entry Feedback Future Directions What's New
Projects Missions Sites Facilities Equipment Contacts

Contact Entry Selection Page

Contact entries are people, organizations, or business that are listed as contacts in one or more of the other entries in the analogs database.

Select Person to Display

Monika Schultz
Carol Stoker
Bill Todd
Paul Todd
Stephen A. Voets
Drenda L. Ward

Submit Reset

Select Business or Organization to Display

Arizona (USA State of)
Canada (Govt of)
Mars Institute
Mars Society
Meteor Crater Enterprises Inc
NASA

Submit Reset

Show Complete List of Businesses/Organizations and People with phone numbers

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Curators: Stephen A. Voets
Webmaster: Stephen A. Voets
NASA Official: Drenda L. Ward
Baseline: TBD
Reviewed: TBD

Trusted sites

- The contact or “phone book” of the system.
- It contains the people and organizations (including business) listed as a contact in an entry.
- There is also a link to a version that displays all entries with phone number.

Analogs Database: Contact Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go

Address http://jsc-web-dev-cent.jsc.nasa.gov/analogs/analogsdb/DetailsOfContact.cfm

Analogs Database
@ Johnson Space Center, Houston, Texas

Test Search the Database
+ Advanced Search

+ AnalogsDB Home + Special Outputs + Submit Entry + Feedback + Future Directions + What's New
+ Projects + Missions + Sites + Facilities + Equipment + Contacts

Contact Details

Name
Stephen A. Voets

Organization or Company
Science Applications International Corporation

Address
NASA JSC / Code ZX
2101 NASA Road 1
Houston, TX
USA
77059

Work Phone
+1-201-463-4343

Mobile Phone

FAX Number

Email Address
Stephen.A.Voets@NASA.gov

URL

Notes

Select Person to Display

- Richard Alena
- Marc Boucher
- Quintus Briggs
- Nathalie A. Cabrol
- Craig Cooper
- Samantha Dornville

Select Business or Organization to Display

- Arizona (USA State of)
- Canada (Govt of)
- Mars Institute
- Mars Society
- Meteor Crater Enterprises Inc
- NASA

Done Trusted sites

- The person to blame for all errors in the system.